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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,868	04/12/2004	Jussi Pihlajamaa	60282.00150	1847

32294 7590 01/04/2007  
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TYSONS CORNER, VA 22182

EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/821,868

Applicant(s)

PIHLAJAMAA ET AL.

Examiner

Joy K. Contee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 4/18/06 have been fully considered but they are not persuasive. Applicant argues that Bridgelall fails to show physically separate modules. However, Bridgelall describes that device 12, includes an "RF module", an interface and a baseband modem, see Fig. 2. Examiner contends that device 12 indeed comprises physically separate modules as described in col. 5, lines 1-15 and shown in Fig. 2, each module is labeled and identified as such. The Examiner further notes that arrows and lines indicate the coupling of separate modules.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Bridgelall, U.S. Patent No. 6,717,516.

Regarding claims 1,6,13, Bridgelall discloses a radio equipment system having a modular structure, the system comprising: a baseband modem; a digital interface; and a radio frequency unit including digitally operating radio frequency control means (i.e., inherently digitally operated see col. 2, lines 31-39) and radio frequency parts means,

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wherein the baseband modem and the radio frequency unit respectively form physically separate modules which are connected with each other by the digital interface (see Fig. 2 and col. 5, lines 1-15).

Regarding claims 2-6, Bridgelall discloses the system according to claim 1, wherein the module forming the baseband modem comprises: correction means for performing forward error correction coding and decoding; and symbol mapping means for symbol mapping and demapping (col. 5, lines 29-45).

Regarding claims 7-10, Bridgelall discloses the method according to claim 6, further comprising: sending, from the baseband modem module to the radio frequency unit module, transmitter data including in-phase component signals and quadratic phase component signals; sending, from the baseband modem module to the radio frequency unit module, transmitter clock signals; sending, from the baseband modem module to the radio frequency unit module, control signals providing support for type-specific functionalities; sending, from the radio frequency unit module to the baseband modem module, receiver clock signals; sending, from the radio frequency unit module to the baseband modem module, receiver data including in-phase component signals and quadratic phase component signals; and exchanging, between the radio frequency unit module and the baseband modem module, microprocessor signals; wherein said sending steps and said exchanging step are driven by the digital interface (col. 6, line 37-col. 7, line 3).

Regarding claims 11-15, Bridgelall discloses the method according to claim 10, wherein the transmitter and receiver correction comprises a quadratic error correction, a

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balance error correction, a bias error correction, and a gain error correction (col. 5, lines 29-46).

Regarding claim 16, Bridgelall discloses the interface according to claim 13, further comprising: first sending means for sending, from the baseband modem module to the radio frequency unit module, transmitter data including in-phase component signals and quadratic phase component signals; second sending means for sending, from the baseband modem module to the radio frequency unit module, transmitter clock signals; third sending means for sending, from the baseband modem module to the radio frequency unit module, control signals providing support for type-specific functionalities; fourth sending means for sending, from the radio frequency unit module to the baseband modem module, receiver clock signals; fifth sending means for sending, from the radio frequency unit module to the baseband modem module, receiver data including in-phase component signals and quadratic phase component signals; and exchanging means for exchanging, between the radio frequency unit module and the baseband modem module, microprocessor signals (col. 5, lines 29-46 and col. 6, line 37 –col. 7, line 38).

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K. Contee whose telephone number is 571.272.7906. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571.272.7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JC

  
JOY K. CONTEE  
PATENT EXAMINER

  
TEMICA BEAMER  
PRIMARY EXAMINER